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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,232

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Mark Bodner

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EXAMINER

CHEUNG, VICTOR

ART UNIT

PAPER NUMBER

3714

NOTIFICATION DATE

DELIVERY MODE

05/13/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/675,232	Applicant(s) BODNER ET AL.	
	Examiner VICTOR CHEUNG	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response has been filed 10/17/2008.
2. Claims 1-33 are currently pending.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 19-23 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Re Claims 19-23: In order for a claimed process to be statutory under 35 U.S.C. 101 , the process must positively recite limitations that describe the process being tied to another statutory class, such as a particular apparatus, or transforming underlying subject matter, such as an article or materials, to a different state or thing. Claims 19-23 are drawn to methods of analyzing performances by a student, providing feedback to the student, and developing a computerized game for teaching mathematical concepts to a student. In these claims, the processes are not tied to another statutory class, nor is there a transformation of underlying subject matter.

Claim Objections

5. Claims 25 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. Claims 25 and 26 both include the limitation “The method of Claim 24.” However, claim 24 is a computer readable storage medium having instructions for performing a method, and thus claims 25 and 26, being drawn to only the method steps in claim 24, are in improper dependent form for failing to include all the limitations of parent claim 24.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 5, 9-10, and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Donahue (US Patent Application Publication No. 2003/0039948).

Re Claim 1: Donahue discloses a computerized system for analyzing student performance data and providing feedback based on the student performance data (Abstract), the system comprising a computer network interface module configured to receive student performance data

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and transmit recommendation data via a computer network (Paragraph 25), a data acquisition module configured to receive the student performance data from the computer network interface module and reformat the student performance data (Paragraphs 59, 75), a performance analysis module configured to receive the reformatted student performance data from the data acquisition module and generate analysis data by analyzing the reformatted student performance data (Paragraph 59), and a feedback generation module configured to receive the analysis data from the performance analysis module and generate the recommendation data based on the analysis data, wherein the computer network interface module received the recommendation data from the feedback generation module and transmits the recommendation data onto the computer network to a school official (Paragraphs 59-62, 75).

Re Claims 2-3: Donohue discloses student performance data indicating a source of the data, wherein the data source is a school, a teacher, or a student (Paragraphs 35-45, 59-60).

Re Claim 5: Donahue discloses student performance data including a score achieved by the student on a performance evaluation, wherein the performance evaluation is a game, a lesson, a quiz, or a test (Paragraph 55).

Re Claim 9: Donahue discloses analyzing the student data along a learning curve in the profile (Paragraph 49).

Re Claim 10: Donahue discloses that the computer network is the Internet (Paragraph 25).

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Re Claim 28: Donahue discloses the recommendation data including an optional course of action (Paragraph 62).

Re Claim 29: Donahue discloses the recommendation data including a corrective course of action (Paragraph 62).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948) in view of Bejar et al. (US Patent No. 6,526,258).

Re Claim 4: Donahue does not specifically disclose indexing data with codes.

Bejar et al. disclose indexing data with codes (Figs. 3, 8-9).

It would have been obvious to index the data with codes, thereby providing a shorthand notation that saves time and space.

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Re Claims 11-12: Donahue discloses analyzing stored data in a database and generating remedial recommendations based on learning problems (Paragraph 63).

However, Donahue does not specifically disclose a relational database.

Bejar et al. disclose the use of a relational database for analyzing responses of test questions (Col. 2, Line 44-Col. 3, Line 17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a relational database, thereby providing a detailed, organized, database from which a meaningful assessment can be made.

Regarding the limitations of determining one or more universals of learning, note that the manner of operating the system does not differentiate the system from the prior art unless there results a structural difference that would patentably distinguish the systems.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948).

Re Claim 6: Donahue does not specifically disclose the performance data indicating a student, teacher, or school that is the source of the test data, wherein the data is encrypted.

Examiner takes OFFICIAL NOTICE that encrypting data is old and well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to encrypt the data, thereby providing a security feature to protect the data.

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11. Claims 7-8, 13-18, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948) in view of UCI (Today@UCI: Press Release: "Piano and Computer Training...").

Re Claim 7: Donahue does not specifically disclose a spatial temporal math video game.

UCI discloses that spatial temporal math video games are known to improve math skills in children.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spatial temporal math video game, thereby providing an enhanced, efficient, learning experience and method.

Re Claim 8: Donahue, in view of UCI, discloses the math video game as in claim 7. Donahue additionally discloses the use of data representing the progress of consecutive lessons (Paragraphs 46-47).

Re Claim 13-15, 17: Donahue discloses a computerized system for analyzing student performance data and providing feedback based on the student performance data, the system comprising a student computer system configured to administer a performance evaluation and record student response data (Paragraph 54), an education module configured to receive the student response data from the student system and generate student performance data indicative of the level of the student's mastery of the subject matter of the performance evaluation (Paragraph 55), an analysis and feedback module configured to receive the student performance data from the education module and generate analysis data by performing an analysis of the student performance

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data, and a school official computer system configured to receive the feedback data from the analysis and feedback module, wherein the feedback data comprises recommendations to a school official for enhancing student performance on subsequent performance evaluations (Paragraphs 59, 75).

However, Donahue does not specifically disclose a spatial temporal performance evaluation.

UCI discloses that spatial temporal math video games are known to improve math skills in children.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a spatial temporal math video game, thereby providing an enhanced, efficient, learning experience and method.

Re Claim 16: Donahue discloses student performance data indicating a source of the data, wherein the data source is a school, a teacher, or a student (Paragraphs 35-45, 59-60).

Re Claim 18: Donahue does not specifically disclose the performance data indicating a student, teacher, or school that is the source of the test data, wherein the data is encrypted.

Examiner takes OFFICIAL NOTICE that encrypting data is old and well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to encrypt the data, thereby providing a security feature to protect the data.

Re Claim 31: Donahue discloses the recommendation data including an optional course of action (Paragraph 62).

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Re Claim 32: Donahue discloses the recommendation data including a corrective course of action (Paragraph 62).

Re Claims 30 and 33: Donahue discloses that actions may include remedial elements (Paragraph 33).

However, Donahue does not specifically disclose repeating a level of a game.

UCI discloses that spatial temporal math video games are known to improve math skills in children.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to repeating a level of a game, thereby improving math skills.

12. Claims 19, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948) in view of Thomas (US Patent No. 6,514,084).

Re Claims 19-20 and 24-25: Donahue discloses a method of analyzing successive performances by a student for a computerized quiz and providing feedback based on the performances, the method comprising determining whether a student score is above a threshold passing score to identify that the student has achieved a passing score on a quiz (Paragraph 55), comparing the passing score of the student to at least one score obtained from at least one subsequent quiz (Paragraph 61), determining whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the

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comparison (Paragraphs 61-62), analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve (Paragraph 49). Donahue additionally discloses providing feedback that a student should continue the quiz and/or be given extra attention if the student fails to pass a specific threshold after attempting a quiz a predetermined number of times (Paragraphs 57-58).

Donahue also discloses the invention embodied on a computer readable storage medium (as per claims 24-25; Paragraph 10).

Thomas discloses using performance data to generate a best fit curve and extrapolating the student's performance trend to predict future performance data, comparing the best fit curve to a target performance level, and determining when the student's performance may reach a threshold passing score and target performance level (Figs. 5A-5C; Col. 7, Line 57-Col. 8, Line 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate and extrapolate a best fit curve, thereby providing the student with a visual indication of his/her progress to preemptively determine if a progress goal will not be met in time.

13. Claims 21, 22, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948) and Thomas (US Patent No. 6,514,084), as applied to claims 19 and 24 above, and further in view of Mizuma et al. (US Patent Application Publication No. 2004/0033475).

Re Claims 21 and 26: Re Claim 22: Donahue discloses comparing quiz scores to previous quiz scores as discussed above.

However, Donahue does not specifically disclose comparing the quiz scores against the number of times the quiz is taken for the more recent day.

Thomas discloses comparing the quiz scores against the number of times the quiz is taken for all days the quiz is taken (Fig. 5C).

Mizuma et al. disclose that progress reports showing daily reports (Paragraph 66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to analyze the scores for the most recent day, thereby providing a detailed data to analyze for a specific part of the full performance history.

Re Claims 22 and 27: Donahue discloses comparing quiz scores to previous quiz scores as discussed above.

However, Donahue does not specifically disclose comparing the quiz scores against the number of times the quiz is taken for all days the quiz is taken.

Thomas discloses comparing the quiz scores against the number of times the quiz is taken for all days the quiz is taken (Fig. 5C).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the quiz scores against the number of times the quiz is taken for all days, thereby providing a complete history of data to analyze.

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donahue (US Patent Application Publication No. 2003/0039948) in view of Thomas (US Patent No. 6,514,084), UCI

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(Today@UCI: Press Release: "Piano and Computer Training..."), and Calhoun et al. (US Patent Application No. 2003/0059759).

Re Claim 23: Donahue discloses determining a concept to be taught to a student and formulating and administering a basic test of the concept to the student (Paragraph 49), wherein the concept may include mathematical concepts (Paragraph 104), testing the concept to obtain a progress curve of student scores (Paragraphs 49, 55), determining successful learning and retention of the concept (Paragraph 63), administering a diagnostic quiz of the concept to the student (Paragraph 53), determining adjustments and redesigning the system and lesson elements based on a comparison of the history of results from the assessment components (Paragraphs 84-86, 97-98), and integrating the system and lessons into an educational curriculum (Abstract).

However, Donahue does not specifically disclose a spatial temporal test, using games of the mathematical concepts, using the progress curve to determine learning and retention of the concept, determining if the game score is commensurate with the test score, and determining if the game score is commensurate with the diagnostic quiz score.

UCI teaches that spatial temporal math video games are known to improve math skills in children.

Thomas teaches that progress curves may be used to determine successful learning and retention of a concept (Col. 7, Lines 57-Col. 8, Line 5).

Calhoun et al. teach that initial testing may be performed to gauge an individual's abilities, followed by comparing the individual's progress to determine a correlation (Paragraphs 72-76).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include spatial temporal math video games, thereby providing an effective method to learn

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mathematical concepts. It would have been obvious to use analyze the progress curve to determine successful learning and retention of the mathematical concept, thus providing a graphically intuitive method of determining a student's history and progress in the learning the mathematical concept. It would have been obvious to use the comparisons of the assessment components to determine if the various scores are commensurate, thus achieving the predictable result of determining if the student is benefiting from the lesson programs.

Response to Arguments

15. Applicant's arguments filed 10/17/2008 have been fully considered but they are not persuasive.

Regarding Claim 1: The Applicant argues, on pages 8-10, that Donahue does not disclose transmitting the recommendation data onto the computer network to a school official, as in amended claim 1. Applicant further acknowledges paragraphs 60-62 of Donahue, wherein a teacher logs on to the system to view recommendation data and subsequently make modifications or add and remove elements. The Applicant argues that providing the teacher login is not the same as providing a module that transmits recommendation data onto the computer network to a school official. However, the Examiner disagrees. While the teacher is shown to login to the system to access the data, the module is still transmitting the recommendation data to the teacher, as seen in figure 2 with regard to reference number 68.

Regarding Claim 13: The Applicant argues, on pages 11-12, that Donahue does not disclose recommendations to a school official for enhancing student performance on subsequent performance evaluations. However, as discussed with regard to the preceding arguments to claim 1 above, the Examiner believes that Donahue does disclose a school official receiving recommendations for enhancing student performance on subsequent performance evaluations.

Regarding Claims 19 and 24: The Applicant argues, on pages 13-14, that Donahue does not disclose “comparing the passing score of the student to at least one score obtained from at least one subsequent quiz, and determining whether the student is authorized to progress to a next task of a curriculum or whether the student needs assistance from an instructor based on the comparison,” as currently amended in the claims. However, the Examiner disagrees. In paragraph 61, Donahue discloses that results of previous assessments and lesson elements are all taken into account in the process of determining subsequent lesson elements. Thus, Donahue discloses the amended features.

16. Applicant’s argument, see pages 14-16, filed 10/17/2008, with respect to claim 23 has been fully considered and is persuasive. The rejection of claim 23 has been withdrawn.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR CHEUNG whose telephone number is (571)270-1349. The examiner can normally be reached on Mon-Fri, 9-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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